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ABSTRACT

This discussion of the importance and scope of audiovisual aids in the educational programs and activities designed for children in developing countries includes the significance of audiovisual aids in pre-school and primary school education, types of audiovisual aids, learning from pictures, creative art materials, play materials, and problems and constraints. Photographs and illustrations are included. A brief discussion of the need for and current approach to nutrition and health teaching in Bhutan is attached. (CHC)

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AUDIO-VISUAL AIDS FOR PRE-SCHOOL AND PRIMARY SCHOOL CHILDREN

A TRAINING DOCUMENT

AIDS TO PROGRAMMING UNICEF ASSISTANCE TO EDUCATION

BASIC EDUCATION 6

April 1980

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The purpose of this paper is to draw the attention of pre-school and primary school teachers to the importance and scope of audio-visual aids in the educational programmes and activities designed for pre-school and primary school children in developing countries. The emphasis in this paper is on low-cost visual aids and how they could be produced by teachers in an inexpensive way and used in different ways to strengthen the impact of their educational programmes.

It is meant to be used as a training document in In-service Training Programmes as well as pre-service courses for pre-school and primary school teachers.

This paper is based on the author's experiences of working with primary school teachers and teacher educators in Bhutan.

AUDIO-VISUAL AIDS
FOR
PRE-SCHOOL AND PRIMARY SCHOOL CHILDREN

I. *SIGNIFICANCE OF AUDIO-VISUAL AIDS IN PRE-SCHOOL AND PRIMARY SCHOOL EDUCATION*

There is a better understanding today than ever before as to how children learn and what kind of activities and things serve as efficient means and tools of learning. Research has shown that audio-visual materials in the form of pictures, charts, maps, slides, film-strips, recordings when properly used can make a significant contribution to learning, reinforcing the role of textbooks, oral instruction and exercises.

The first few years of a child's life are the most impressionable years and the learning experiences provided during these years in or outside schools and other institutional arrangements have a predominant influence on the future behaviour pattern of the child. Seeing, hearing, touching, smelling and manipulating things in the environment tell the child what the world is like. Sensory experiences of all kinds contribute to strengthen and enrich the child's perception. Toys, building blocks, card-games, puzzles as well as audio-visual aids such as pictures, charts, maps, globes, diagrams, flannelgraphs, sound-recordings which are basically materials of sight and sound, offer a variety of experiences which stimulate the senses and promote self-activity in children. Audio-visual aids reinforce the spoken or the written words with concrete images and thus provide rich perceptual experiences whcih are the basis of learning. *(See Figures 1,2,3 and 4)*

Figure 1

Figure 2

Figure 3

Figure 4

The purpose of education at the pre-school and primary school levels is not so much a question of giving information to children to be memorised as of deeply stimulating their senses, arousing their curiosity, stimulating inquiry and helping them to achieve significant perceptual growth. If these are the objectives of education, then the learning environment has to be suitably designed.

Designing the environment means to create maximum opportunities for children to observe and work with several things which contribute to their understanding of man and the world. Looking at pictures, listening to a story, listening to recordings of speeches of great men or the songs of great singers or the voices of birds and animals, playing with educational toys, working with building blocks, stringing beads, sorting colour blocks and shapes, matching them to pieces of coloured fabric, touching pet animals, looking at a puppet-show are some of the interesting activities which provide concrete learning experiences to children and help them to develop new attitudes towards learning.

Consequently, the role of the teacher of today has changed from a transmitter of information to that of a planner and organiser of appropriate learning experiences with the management of a variety of teaching and learning materials with a view to creating a stimulating environment for learning. (See Figures 5 and 6)

Figure 5

Figure 6

Conveying ideas skilfully to children is another important task for the teacher of pre-school and primary school children. Audio-Visual Aids in various forms are of immense help to the teacher in this task. A picture or a chart or even a simple drawing on the black-board can provide the child an entirely new experience in understanding an idea or a concept than mere words. Words have different meanings to different individuals but a picture or a drawing can to a much greater extent convey what we have in mind. Ideas that often seen quite simple to us may not be so simple and clear to the child. But if the child could 'see' what we are talking about, it helps him to understand what we exactly mean in our words. 'Seeing is believing'.

A visual presentation of an idea or a concept using a picture or a chart or a model helps children to develop mental images of the object that we are talking about. A mere verbal presentation or a lecture cannot serve this purpose. Visual presentations add variety to teaching and breaks the monotony of verbalism in classroom instruction. An old proverb says:

"If I hear, I forget,

If I see, I remember,

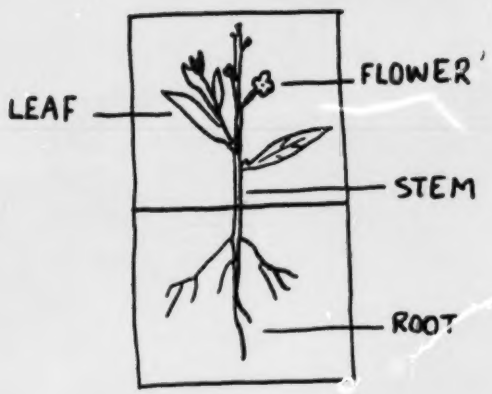
If I do, I understand".

Figure 7

Animal life

Figure 8

PLANT LIFE



Hearing sounds

Figure 9

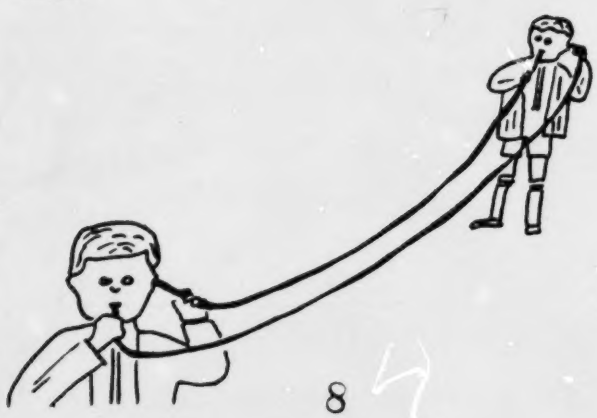


Figure 10

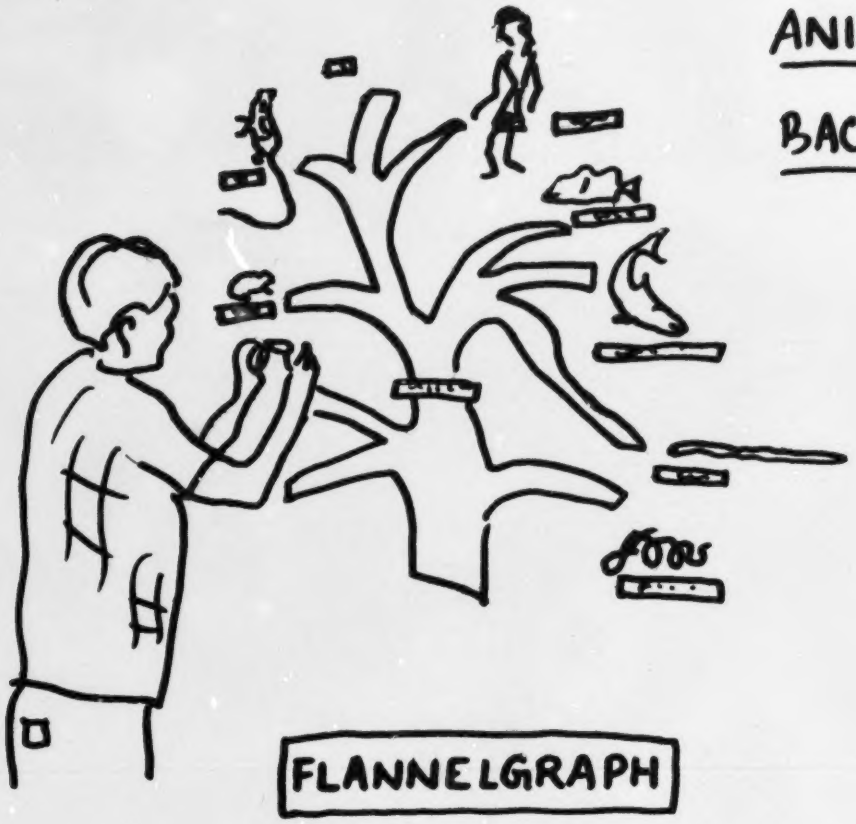


Figure 11

Seeing and hearing together can be more convincing and effective than just hearing. The child gets bored with words but loves to look at pictures of different kinds presented before him. Today the child in the primary school is required to learn increasingly complex information and skills in a highly complicated world. Research shows that 80% of learning occurs through the sense of sight and hearing and, therefore, planned use of audio-visual aids which are essentially materials of sight and sound, help to improve learning and teaching. This important principle is the basis of audio-visual aids to education.

II. TYPES OF AUDIO-VISUAL AIDS

Sound and image play such an important role in the learning process that a large number of sound and visual devices in the form of sound recorders, film projectors, film-strip projectors, slide projectors, overhead projectors, video-recorders, television, have been produced as a result of the development of technology in relation to education. These technological devices are a source of great help to teachers to provide exciting learning experiences to children. Foremost among them is the tape-recorder for language teaching. It provides immediate facilities for recording the speech as soon and as often as may be required. Recordings are another source close to the reality level of experience. Music, the human voice, songs of birds, calls of wild animals, are available in recordings on magnetic tape and discs for giving a new quality to children's experience. Such modern aids as the tape-recorder, the film projector, the slide projector and the overhead projector provide the possibility of a much fuller and wider visual presentation of objects and events than the teacher's ingenuity could ever produce previously. Slides, film-strips, flannelgraphs and other aids can bring into the classroom a representation of virtually all objects, situations and actions of normal life. The presentation can also be controlled and graded, so that there is systematic progression from one point to another.

The various categories of audio-visual materials and equipment, both traditional and modern, may be classified as follows:

A. VISUAL AIDS OR NON-PROJECTED AIDS

1. -Pictures or illustrations
2. -Photographs
3. -Flash-cards or strips
4. -Posters
5. -Charts
6. -Diagrams
7. -Maps
8. -Graphs
9. -Comic strips or books
10. -Picture-books
11. -Exhibits

B. PROJECTED AIDS

1. Motion picture films 8 mm, 16 mm
2. Slides
3. Film-strips
4. Transparencies for overhead projectors

C. AUDIO AIDS

1. Radio
2. Recordings - Tapes, Discs

D. THREE DIMENSIONAL AIDS

1. Models
2. Objects
3. Specimens
4. Mock-ups
5. Dioramas
6. Puppets
7. Mobiles
8. Planatarium

E. DISPLAY BOARDS

1. Blackboard or chalkboard
2. Flannelboard
3. Bulletin Board
4. Peg-board

F. NEW MEDIA

1. Television - Open circuit television and closed-circuit television
2. Video-recorder
3. Teaching machines
4. Computers
5. Language laboratory

G. OTHERS

1. Audio-Visual Kits
2. Displays and Exhibitions
3. Programmed Learning Materials

H. AUDIO-VISUAL EQUIPMENT

1. Motion Picture Projectors - 16 mm
   8 mm - reel type
   8 mm - film-loop or cartridge film projectors
2. Slide Projectors - Manual Type and Automatic
3. Film-strip Projectors
4. Overhead Projectors
5. Tape Recorders - Reel type, Cassette type
6. Opaque Projectors, Epidiascopes, Episcopes
7. Video-recorders
8. Television

Here we see a wide range of audio-visual aids and equipment from the age-old blackboard to modern electrical and electronic gadgets such as the tape-recorder, the film projector, radio and television which have a compelling power to focus attention of children and challenge their imagination.

Most of these 'aids' are expensive, particularly such aids as films, film-strips, slides, transparencies which involve the use of costly projection equipment such as film projectors, film-strip projectors, slide projectors, overhead projectors. In the existing economic conditions in the developing countries, schools cannot afford to buy these costly instruments and materials.

But there are relatively cheaper or low-cost teaching aids such as pictures, charts, globes, maps, flannelgraphs, which are equally effective for teaching and learning in classroom situations and which can be produced by teachers with the involvement of children if they make efforts to learn some of the basic techniques of production such as drawing, lettering, colouring and mounting pictures. The blackboard and books, of course, are already in widespread use (see Figures 12 and 13).

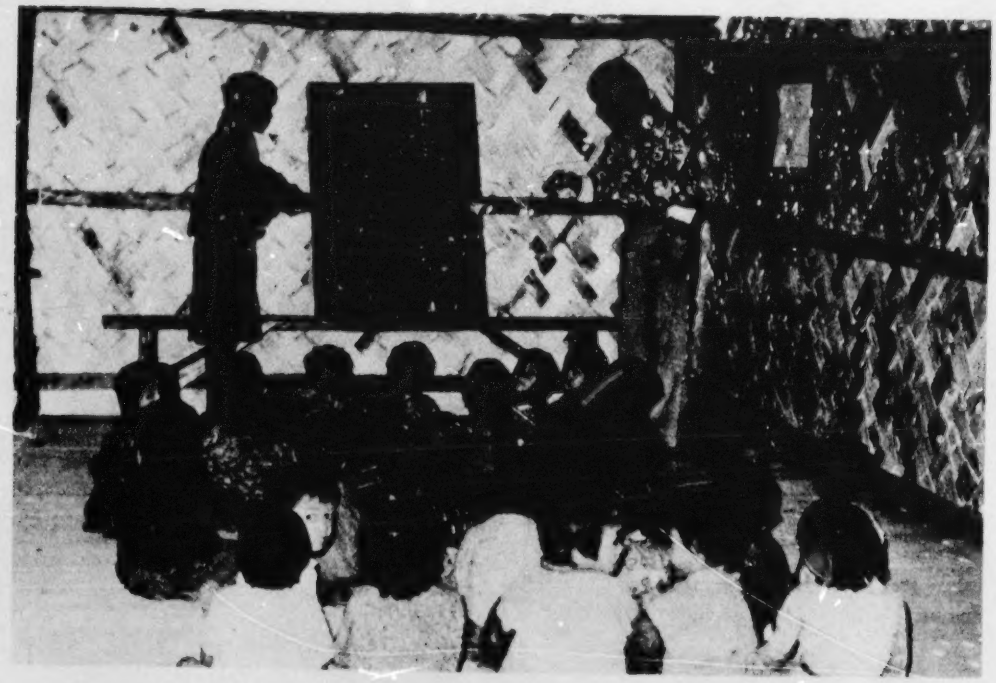


Figure 12

Figure 13

III. LEARNING FROM PICTURES

Among the various aids to teaching and learning, pictures are important instructional devices at all grade levels. In the classroom, pictures can make a unique contribution to learning.

> *The study of pictures belongs to the field of observational learning which is a more fundamental and natural process than reading and listening. A fundamental technique of teaching in the pre-school and primary grades is the training of children in the habit of purposeful observation which calls for the mental processes of association, reasoning, recapitulation and also the art of interpretation.*

Studying pictures is only part of observational learning but within the classroom, it is a highly functional means of broadening the child's knowledge. *(See Figures 14, 15, 16 and 17).*

Figure 14

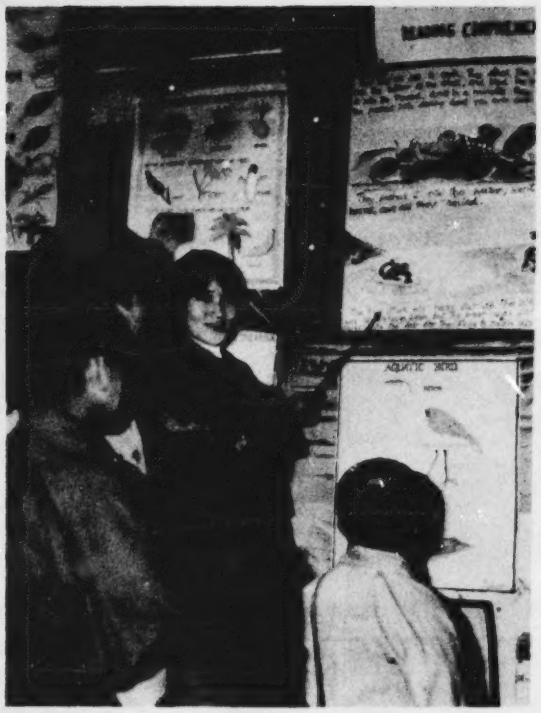


Figure 15

Figure 16

Figure 17

Pictures useful to teaching could be obtained from many picture magazines, newspapers or from many of the publicity materials published by various Government Departments such as Agriculture, Health and Industry and by industrial establishments. Teachers should take advantage of such free and inexpensive materials and start collecting them. These pictures can be cut and mounted on card-board or mount-board in order to preserve them. Pictures relating to particular area of study such as General Science, Natural Science, Arts, Humanities, could be cut out from the magazines, newspapers and kept in separate files which could be called 'Picture Files'. The pictures could be selected and arranged on bulletin-boards and displayed in the school. Some lettering could be added to give a pleasing and dramatic effect to the display.

Teachers could discover many techniques to display pictures to stimulate learning in and out of the classroom. Children should be involved in designing and making charts, diagrams, bulletin-board displays not only to provide learning experiences to them but also to create an atmosphere for learning. Right kind of pictures could be developed or collected to serve the purposes of:

1. *Stimulating reading and writing*
2. *Dramatizing a point*
3. *Providing an atmosphere for learning*
4. *Inviting participation*
5. *Creating centres of interest*
6. *Introducing a topic of study*
7. *Reviewing and summarising a lesson*
8. *Testing learning*
9. *Developing critical judgement*

Properly made and wisely used pictures can help the teacher to speed up understanding, create enthusiasm and enjoyment of a kind that he or she might have not previously felt.

Since the chief value of pictures lies in their power to assist pupils to comprehend situations, conditions and happenings that lie outside their experience, it is obvious that the picture chosen for teaching should be appropriate to the age, experience and intelligence level of the children. It is worthwhile to gradually build up a collection of useful pictures.

IV CREATIVE ART MATERIALS

Children love not only to see pictures but also to produce their own pictures. The pictures will have individuality, for they will express the ideas, feelings and thinking of the individual. Pictures or paintings made by children should be displayed regularly in the school. From the drawings and paintings done by young children, teachers have discovered many attributes of creativity in them.

Experimentation in techniques is also one of the essential aspects of creative expression. Different textural effects are often produced by children with the help of brush and colours. Using contrasting colours instinctively, they are able to create designs which heighten the rhythmic effect of their composition. Using transparent water colours, children have produced landscapes with mystic effect. (See Figs. 18, 19 and 20). All this activity demands a carefully prepared environment with space, freedom and materials to explore and experiment with.

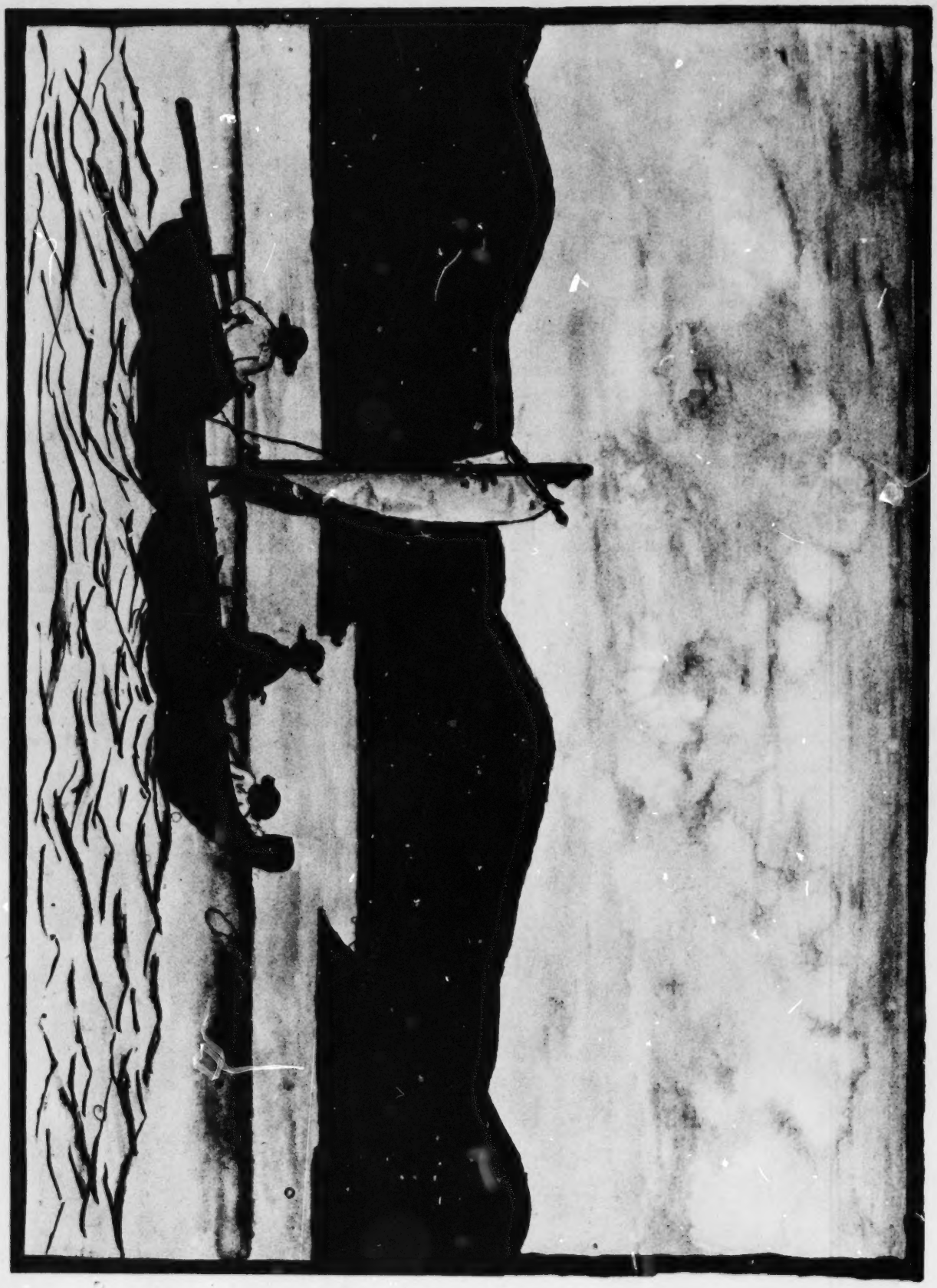
To provide these experiences, the child needs sufficient art materials such as drawing paper, cardboard, colours, brushes, crayons, adhesives, felt-pens, inks and pens. Experience in the art media and materials which the child can manipulate, explore and experiment with provide important means of enriching the child's experience of the world. Fine points of craftsmanship, achievements of skill and technique and a conscious approach to design may be shared with other children who are ready for it.

18

Figure 18

19

Figure 10



V. *PLAY MATERIALS*

Play has been regarded as the very heart-beat of early childhood education. Play has a profound influence on the social, emotional and intellectual development of the child. Early childhood is a powerful age for learning through play. The value of play particularly in the pre-school stage in building the confidence of the child in his own powers is well-known. The young child learns best by real experiences with all the elements in his environment. To create such a play world, the child needs not only a play-ground but also sufficient play materials -- both out-door play materials such as swings, slides, climbing frames, see-saw, merry-go-round, miniature buses (wooden), trucks, toys; also badminton, hockey, foot-ball for older children; and indoor play materials such as carom, card-games, mechano sets, science and mathematics kits to develop understandings in science and mathematics. It is important to consider all these materials as aids to learning in one way or another. *(See Figures 21,22,23, 24)*

A distinction has to be made among the three categories of materials that are specially designed for pre-school and primary school children. They are:

AUDIO-VISUAL MATERIALS

PLAY MATERIALS

CREATIVE ART MATERIALS

All the materials are needed to improve the child's learning environment, to develop his language skills as well as mathematical, inventive and creative abilities.

Figure 21

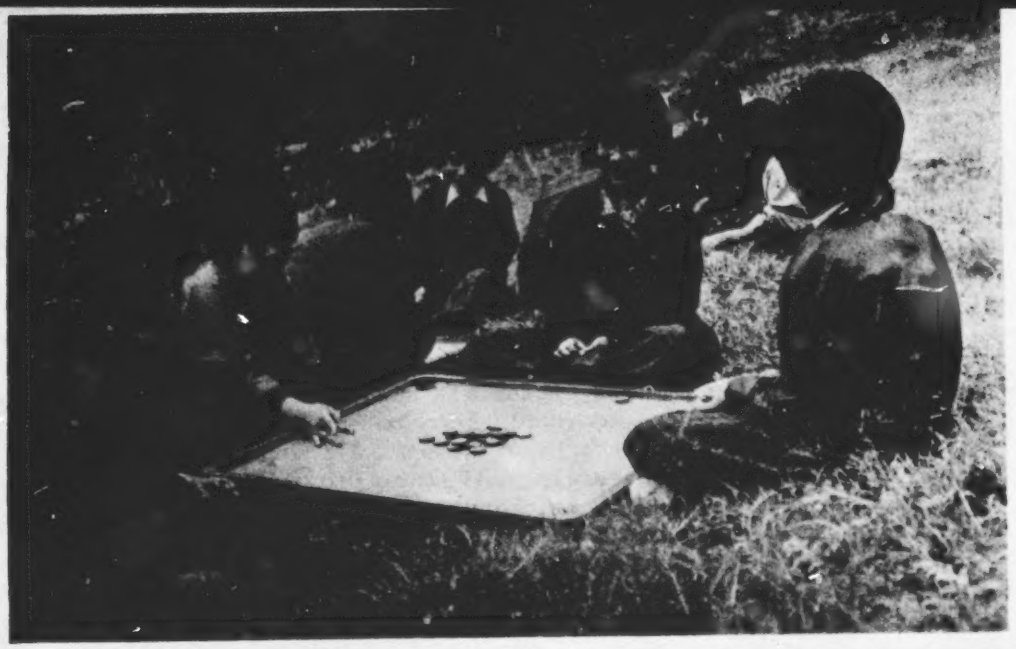


Fig. 22

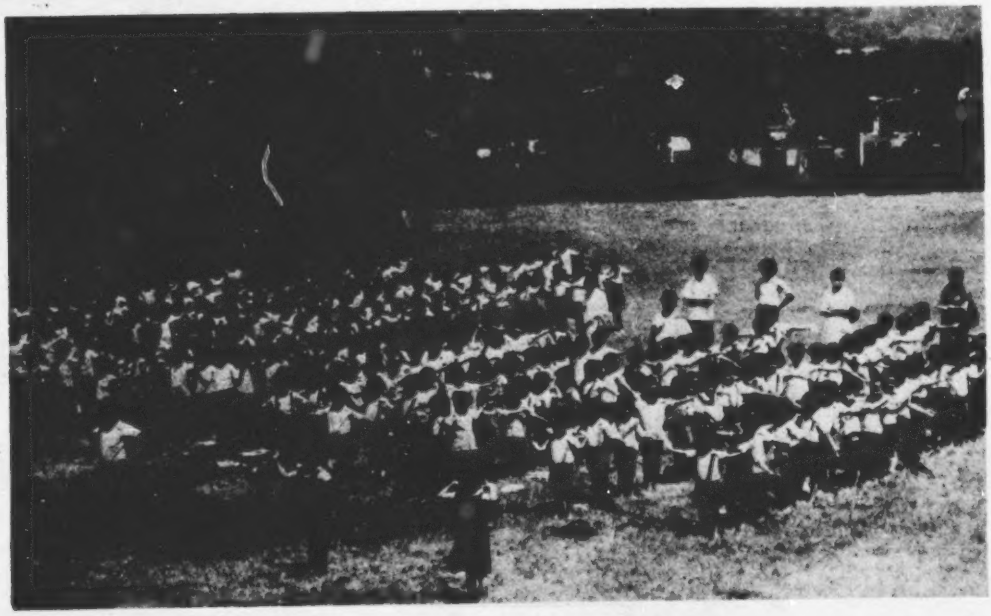


Fig. 23

Fig. 24

VI. PROBLEMS AND CONSTRAINTS

A survey of the conditions of primary schools (of which pre-schooling is a part) in the developing countries reveals that not even simple visual aids such as pictures, charts, models, globes are available in the schools to improve the quality of education. In many rural schools, even good blackboards or chalkboards are not available. Schools have no funds even to buy materials such as chart-paper, crayons, colours, pens, tracing paper to enable them to encourage teachers and students to prepare their own teaching 'aids'. It cannot be over-emphasized that some basic materials need to be provided. More than that training programmes need to be organized to enable teachers to develop skills and techniques of production specially by adopting low-cost locally available resources and using them effecitvely as integral parts of a well-designed lesson.

SUGGESTED BASIC MATERIALS

It is presumed that pre-school and primary school teachers would be able to identify the existing local materials and resources which could be used in the preparation of some of the simpler aids such as blackboards, slates, charts, models, toys, card-games and other aids needed for providing rich and enjoyable experience to pre-school and primary school children; wood, plywood, bamboo, locally made colours, are some of them from which many types of simple teaching aids could be produced.

SUGGESTED ESSENTIAL MATERIALS

Drawing Materials: Pencils, erasers, crayons, poster colours, brushes (round and flat), drawing paper, stiff paper, coloured paper, brown paper, tracing paper, card-board, straw board, ink, pens.

Modelling Materials: Clay, plasticine, soap-cake, bee-hive wax, foot-ball bladder, corrugated board, adhesives.

Instruments, tools: Geometrical instruments box, foot-rule, set squares, scissors, sharp knife, hammer, screw driver, pliers.

Other items: Corks, rubber balls, mug, cotton, cut pieces of cloth, wood, jute cloth, flannelcloth, sand paper, carbon paper.

Audio-Visual Equipment: One cassette tape-recorder with spare cassettes.

VII. CONCLUSION

No longer do we conceive pre-school and primary school education as a process of memorization of information by children.

Our concern, as teachers and educators, is to create an environment to foster the talents and interests of children in the schools and provide ample ooportunities to them to acquire knowledge and skills they need in life, in a meaningful manner.

Audio-Visual Aids which have a decisive influence on the quality of learning in pre-school institutions and primary schools are essential and should be made available if the children are to be stimulated in their own learning.

Use of audio-visual iads of all types can provide exciting learning experiences to children to improve their reading, listening and observing abilities.

In developing countries, schools cannot afford to have costly audio-visual aids and apparatus but inexpensive or low-cost aids such as pictures, charts, maps, globes, models for use in the primary schools, and educational toys, games for imaginative play in the pre-school institutions could be designed and produced locally. Primary Teacher Training Institutions can play a major role in this enterprise. These institutions are to be encouraged for the development of such learning materials.

They need the help of international organizations to become centres for research, experimentation and development of all types of teaching-learning materials for the purpose of good education in all the pre-school institutions and primary schools.

See Annex on Bhutan's programme of teaching Nutrition and Health.

NUTRITION AND HEALTH TEACHING IN BHUTAN

In analysing the needs of children in Bhutan, particular attention was given to the problems of health, nutrition and education of children in the developing countries. A major health problem is malnutrition which is widely prevalent among school-going children. Malnutrition has been responsible not only for the poor health of the children but also their learning ability. In particular, protein-deficiency in their diet has given birth to several serious physical and mental disorders among the children, preventing them to go to schools, leading to high rate of drop-outs from schools. Many children who go to schools suffered from malnutrition and dropped out either before completing the primary school stage or do not proceed beyond that stage. In order to meet this situation, provision of adequate nutrition, medical and health care for all school-going children has been given high priority in the national plan of development. But due to limited financial and other resources, it has not been possible to provide adequate nutritious food, medical and health-care facilities to all the school-going children. International organizations such as the World Food Programme (WFP) and UNICEF (United Nations Children's Fund) have provided generous assistance to meet the crisis through food and medical aid programmes. The protein-rich food supplied to school children has not only improved their health but has also helped improve the school attendance, enrolment and also the scholistic achievements of the children. *(See Figures 25, 26)*. Besides food and material aid, these international organizations have also given support to Health and Nutrition Education Programme carried out in the schools.

The causes of malnutrition are complex and inter-related. Undoubtedly, poverty of the people is the main cause. But to a large extent, ignorance of facts concerning food and nutrition, resistance to changes in food habits, traditional attitudes, beliefs, customs and practices concerning food have all been responsible for the spread of malnutrition. This being a problem of education, schemes of health and nutrition education have been introduced in all the primary schools, as the primary school period appears to be most crucial for imparting nutrition education.

In this programme of nutrition and health education, various types of audio-visual aids such as illustrations, pictures, charts, models, flannel-graphs, toys, puppets, recordings were found to be most useful in conveying ideas and concepts to pre-primary and primary school children and also in involving them in several stimulating learning activities through games.

Simple and inexpensive visual aids such as pictures, flip-charts, wall-charts, flannelgraphs, flash-cards, models, dioramas which could be easily prepared by teachers from indigenous materials played an important role in this educational programme. They helped the teachers to clarify the concepts such as relationship between food and nutrition, causes of malnutrition, food and energy needs for 'a balanced diet', healthy eating habits, which are otherwise very difficult to convey to children through verbal methods or by studying textbooks alone. *(See Figure 27)*

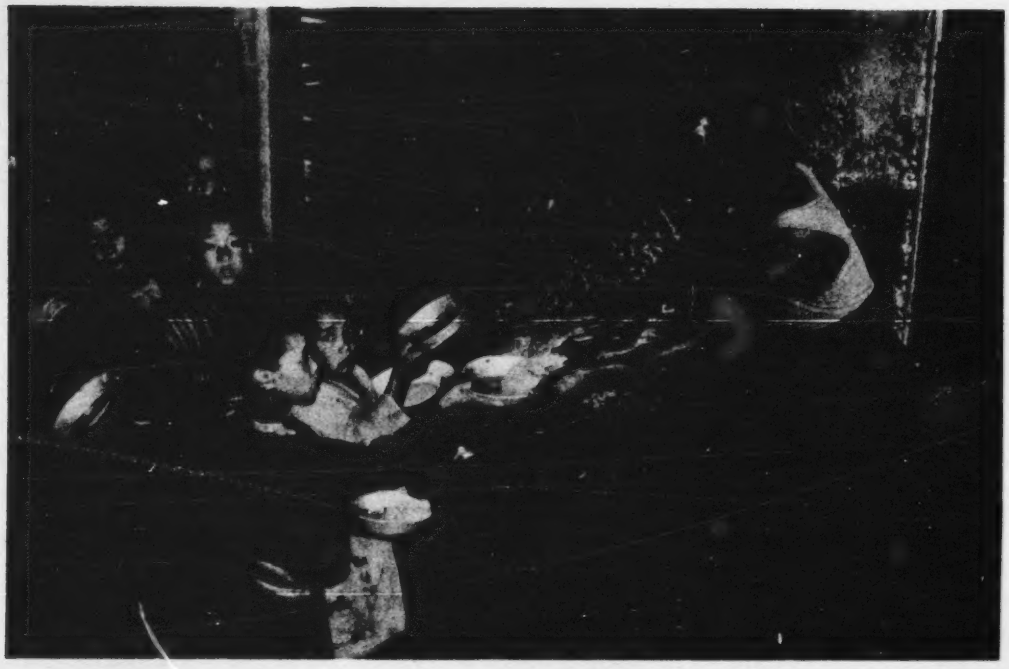


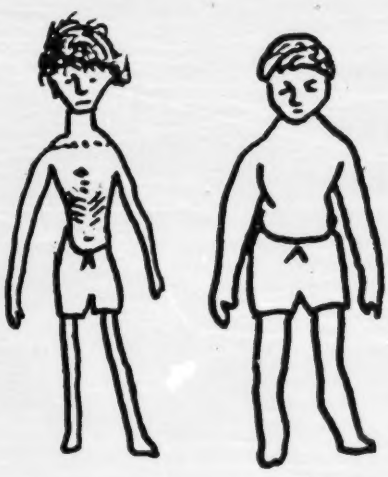
Figure 25

Figure 26

Figure 27

SOME FOODS GIVE YOU ENERGY TO WORK AND PLAY AND TO STUDY AND TO DO OTHER THINGS.

ALL LIVING THINGS GROW. YOU ARE ALSO GROWING. WHEN YOU WERE IN CLASS ONE YOU WERE SMALLER THAN YOU ARE NOW. NEXT YEAR YOU WILL GROW FURTHER



FOOD FOR THE BODY

DO YOU KNOW WHAT KEEPS YOU WELL ? WHY FOOD IS IMPORTANT TO YOU?

YOU SHOULD MAKE IT A HABIT TO EAT FOODS WHICH GIVE ENERGY, HELP YOU TO GROW AND FEEL WELL EVERYDAY.